

Course Outline of Record

1. Course Code: CIS-340B
2.
 - a. Long Course Title: Information and Communication Technology Essentials II
 - b. Short Course Title: IT ESSENTIALS II
3.
 - a. Catalog Course Description:

CompTIA certifications helps students build a solid foundation of essential knowledge and skills that will help them earn employment in technology-related careers. The CompTIA A+ certification assures employers that their applicant is prepared to enter the workforce as an entry-level computer support technician. Computer support technicians provide technical assistance to computer users. They may answer questions or resolve computer problems for clients in person, or via telephone or electronically. They may provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Completion of this course prepares students for the CompTIA A+ 220-902 industry certification exam.
 - b. Class Schedule Course Description:

Introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level ICT professionals.
 - c. Semester Cycle (if applicable): N/A
 - d. Name of Approved Program(s):
 - A+ PREPARATORY Certificate of Completion
4. Total Units: 0 Total Semester Hrs: 27.00
 Lecture Units: 0 Semester Lecture Hrs: 27.00
 Lab Units: 0 Semester Lab Hrs: 0
 Class Size Maximum: 32 Allow Audit: No
 Repeatability Noncredit - Unlimited
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:

Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm I-A)

 Prerequisite: CIS 340A
6. Textbooks, Required Reading or Software: (List in APA or MLA format.)
 - a. Meyers, Mike (2016). Mike Meyers' CompTIA A+ Guide to Managing and Troubleshooting PCs (5/e). McGraw Hill. ISBN: 978-125958954
 College Level: Yes
 Flesch-Kincaid reading level: 12
 - b. Meyers, Mike. Mike Meyers' CompTIA A+ Guide to Managing and Troubleshooting PCs Lab Manual, 5 ed. . McGraw Hill. ISBN: 978-125964344 , 01-01-2016.
7. Entrance Skills: *Before entering the course students must be able:*
 - a.
Assemble components based on customer requirements.
 - CIS 340A - Assemble components based on customer requirements.
 - b.
Install, configure and maintain devices, PCs and software for end users.
 - CIS 340A - Install, configure and maintain devices, PCs and software for end users.
 - c.
Understand the basics of networking and security/forensics.

- CIS 340A - Understand the basics of networking and security/forensics.

8. Course Content and Scope:

Lecture:

1. Operating systems
 - Types of operating systems.
 - Understanding and using the GUI interface.
 - Installing and configuring operating systems.
 - Installing and configuring applications and utilities.
 - Maintaining and troubleshooting operating systems.
2. Security
 - Security threats, adware, spyware, and phishing attacks.
 - Identify viruses, worms, and virus protection software.
 - TCP/IP attacks.
 - Social engineering attacks.
 - Security procedures and security policy requirements.
 - Data encryption, data backups, and biometrics.
 - How to troubleshoot security issues, and how to work with customers to ensure that the best possible protection is in place.
3. Mobile devices
 - Know how to configure, maintain, and repair various mobile devices.
 - The many features of mobile devices and their capabilities, including configuration, synchronization, and data backup.
 - Become familiar with as many different mobile devices as possible.
4. Troubleshooting
 - Steps for advanced troubleshooting computer components.
 - Troubleshooting operating systems.
 - Common problems and solutions for operating systems.
 - Troubleshooting process to networks.
 - Troubleshooting process to laptops.
 - Troubleshooting process to security.
5. The IT Professional
 - Relationship between communication skills and troubleshooting.
 - Working with customer.
 - Ethical and legal issues in the IT industry.
 - Call center technicians.
 - Apply a troubleshooting process to solve computer problems.

Lab: *(if the "Lab Hours" is greater than zero this is required)*

- Practice exams for 220-902 CompTIA A+ examination.
- Watch instructional videos.
- Complete performance-based questions and simulations.
- Apply concepts discussed in lecture like for example, assembling computers from components, configuring those components, troubleshooting case studies, and configuring user privileges.

9. Course Student Learning Outcomes:

1.
Assess and resolve common hardware and software issues while applying troubleshooting skills.
2.
Demonstrate appropriate customer support.
3.
Develop an appreciation of the IT career field and the need to be lifelong learners.

10. Course Objectives: *Upon completion of this course, students will be able to:*
- a. Properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills.
 - b. Provide appropriate customer support.
 - c. Understand the basics of virtualization, desktop imaging, and deployment.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*

- a. Activity
- b. Collaborative/Team
- c. Demonstration, Repetition/Practice
- d. Discussion
- e. Distance Education
- f. Individualized Study
- g. Laboratory
- h. Lecture
- i. Observation
- j. Participation
- k. Role Playing
- l. Supplemental/External Activity
- m. Technology-based instruction
- n. Tutorial

Other Methods:

Handouts to assist and define important terms.

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*

In Class Hours: 27.00

Outside Class Hours: 54.00

a. In-class Assignments

1. Compare and contrast the features and requirements of various Microsoft Operating Systems.
2. Given a scenario, install Windows PC operating systems using appropriate methods.
3. Given a scenario, use appropriate command line tools.
4. Given a scenario, use appropriate Microsoft operating system features and tools.
5. Given a scenario, use Control Panel utilities.
6. Given a scenario, install and configure Windows networking on a client/desktop.
7. Perform common preventive maintenance procedures using the appropriate Windows OS tools.
8. Identify common features and functionality of the Mac OS and Linux operating systems.
9. Given a scenario, setup and use client-side virtualization.
10. Identify basic cloud concepts.
11. Summarize the properties and purpose of services provided by networked hosts.
12. Identify basic features of mobile operating systems.
13. Install and configure basic mobile device network connectivity and email.
14. Summarize methods and data related to mobile device synchronization.
15. Identify common security threats and vulnerabilities.
16. Compare and contrast common prevention methods.
17. Compare and contrast differences of basic Windows OS security settings.
18. Given a scenario, deploy and enforce security best practices to secure a workstation.
19. Compare and contrast various methods for securing mobile devices.
20. Given a scenario, use appropriate data destruction and disposal methods.
21. Given a scenario, secure SOHO wireless and wired networks.

22. Given a scenario, troubleshoot PC operating system problems with appropriate tools.
23. Given a scenario, troubleshoot common PC security issues with appropriate tools and best practices.
24. Given a scenario, troubleshoot common mobile OS and application issues with appropriate tools.
25. Given a scenario, troubleshoot common mobile OS and application security issues with appropriate tools.
26. Given a scenario, use appropriate safety procedures.
27. Given a scenario with potential environmental impacts, apply the appropriate controls.
28. Summarize the process of addressing prohibited content/activity, and explain privacy, licensing, and policy concepts.
29. Demonstrate proper communication techniques and professionalism.
30. Given a scenario, explain the troubleshooting theory.

b. Out-of-class Assignments

Students will be assigned case based assignments involving reading, computer manuals, and general textbook reading that covers network communications, network operations, network security, and network design essentials.

The primary assignments for this course involve the development of a fictional network, including designing and applying an IP address scheme for assigned network topologies, develop network security policies, create a secure wireless connection, and assigning user account policies.

Case studies will be assigned requiring outside research and readings like the following. Your company has just come into some extra money (around 10K) and would like to upgrade their wireless network (that is currently running 802.11b).

Give TWO wireless solutions that would meet your company's requirements. Explain the difference and similarities in the two choices you offered. The company currently has only 25 employees but may expand in the near future.

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Written homework
Written reports/presentations of LAN and WAN communication codes/protocols. Written assignments to define mastery of the ideas behind communications within a LAN or across a WAN
- Critiques
Computer programs and analysis of the software suites of communications software.
- Self-paced testing
- Laboratory projects
Projects to develop an understanding through research of LAN/WAN technologies.
- Computational/problem solving evaluations
Problem solving and testing of how to design/layout/analyze communication hardware/software.
- Presentations/student demonstration observations
Oral reports/presentations/performance of design and analysis of communication suites of hardware and software.
- Group activity participation/observation
- Product/project development evaluation
- True/false/multiple choice examinations
Examinations designed to assess students' mastery of LAN/WAN communication design
- Mid-term and final evaluations
Final evaluation will consist of completion of the CompTIA A+ examination.
- Student participation/contribution
- Oral and practical examination

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

PO - Career and Technical Education

- Fulfill the requirements for an entry- level position in their field.
- Apply critical thinking skills to execute daily duties in their area of employment.
- Apply critical thinking skills to research, evaluate, analyze, and synthesize information.
- Display the skills and aptitude necessary to pass certification exams in their field.
- Exhibit effective written, oral communication and interpersonal skills.

IO - Personal and Professional Development

- Demonstrate an understanding of ethical issues to make sound judgments and decisions.

IO - Scientific Inquiry

- Collect and analyze data. Skills of data collection include an understanding of the notion of hypothesis testing and specific methods of inquiry such as experimentation and systematic observation.

IO - Critical Thinking and Communication

- Apply principles of logic to problem solve and reason with a fair and open mind.

IO - Global Citizenship - Scientific & Technological Literacy

- Synthesize, interpret, and infer, utilizing information, data, and experience to solve problems, innovate, and explore solutions.

IO - Global Citizenship - Ethical Behavior

- Apply ethical reasoning to contemporary issues and moral dilemmas.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
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17. Special Materials and/or Equipment Required of Students:

18. Materials Fees: Required Material?

Material or Item	Cost Per Unit	Total Cost
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19. Provide Reasons for the Substantial Modifications or New Course:

This course prepares students to complete the second of two exams to receive a basic IT certification known as A+. This certification will help them obtain employment in an IT-related field. The course is also oriented and the nontraditional student who does not desire to continue to a 4 year college but rather benefit from gainful IT-related employment.

20. a. Cross-Listed Course (Enter Course Code): *N/A*
 b. Replacement Course (Enter original Course Code): *N/A*

21. Grading Method (choose one): Pass/No Pass Only

22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000580643
- b. T.O.P. Code [CB03]: 70100.00 - Information Technology, G
- c. Credit Status [CB04]: N - Noncredit
- d. Course Transfer Status [CB05]: C = Non-Transferable
- e. Basic Skills Status [CB08]: 2N = Not basic skills course
- f. Vocational Status [CB09]: Clearly Occupational
- g. Course Classification [CB11]: J - Workforce Preparation Enhanced Funding
- h. Special Class Status [CB13]: N - Not Special
- i. Course CAN Code [CB14]: *N/A*
- j. Course Prior to College Level [CB21]: Y = Not Applicable
- k. Course Noncredit Category [CB22]: J - Workforce Preparation
- l. Funding Agency Category [CB23]: Y = Not Applicable

CIS 340B-Information and Communication Technology Essentials II

m. Program Status [CB24]: 1 = Program Applicable

Name of Approved Program (if program-applicable): A+ PREPARATORY

Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

23. Enrollment - Estimate Enrollment

First Year: 12

Third Year: 32

24. Resources - Faculty - Discipline and Other Qualifications:

a. Sufficient Faculty Resources: Yes

b. If No, list number of FTE needed to offer this course: N/A

25. Additional Equipment and/or Supplies Needed and Source of Funding.

N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. (Explain:)

N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Felix Marhuenda-Donate Origination Date 09/13/16